

ON SOME BATRACHIA AND NEMATOGNATHI BROUGHT FROM THE
UPPER AMAZON BY PROF. ORTON.

BY EDWARD D. COPE.

BATRACHIA.

URODELA.

Oedipus altamazonicus, sp. nov.

Represented by three specimens. These are of slender form with long tail and weak limbs. The digits are palmate to the tips. The head is an elongate oval, and its width enters the length to the groin more than six times. The end of the muzzle is tumid, and notched in the middle; the external nostril pierces each tumidity above the lip. The vomerine teeth are in two short arches meeting in the middle and not extending outwards beyond the inner margin of the inner nares. Parasphenoids numerous, the patches not distinguished anteriorly. Thirteen costal folds, the oppressed foot and thin limbs each extending over four of them. Tail swollen at the base, a vertical oval in section. A groove along the median line of the back and tail. Dermal pores numerous. Color uniform dark brown.

Total length of a small specimen .082 m.; of head and body, .040; of head, .007; width of head behind, .005; length of foot limb, .007. Length of head and body of a larger specimen, .050.

This is the most southern known salamander, the first discovered south of the equator.

From Nauta.

ANURA.

BUFONIFORMIA.

Bufo agua, Dand.

Bufo naricus, Spix.

Bufo margaritifer, Laur. *Otilophus* Cur.

Bufo granulatus, Spix.

From the Marañon.

ARCIFERA.

Phyllomedusa scleroderma, Cope. Proceed. Acad. Nat. Sci., Phila., 1868, p. 112.

From Nauta.

Pithecopus tarsius, Cope, loc. cit., p. 113.

Nauta.

Pithecopus celestis, sp. nov.

General appearance and size much as in *Phyllomedusa bicolor*, but there is no trace of parotid gland or line of crypts. The pigment of the upper surfaces extends on the humerus and the outer two toes of both limbs. Vomerine teeth present. Palpebræ not reticulate; no dermal processes. Tympanum a vertical oval .3 to .25 of the diameter of the eye. Muzzle short, obliquely truncate to lip. It is reached by the elbow of the extended fore limb; the heel only reaches the front of the orbit. First finger opposable; first toe longer than second; third with very small dilatation. Superior surfaces blue, sides yellow, with vertical purple bars. Concealed surfaces light maroon, with yellow spots; on the posterior face of the femur in two series. Belly and throat sea-green, unspotted. Lower lip yellow bordered; upper lip without markings. Upper eyelids yellow bordered.

Skin smooth above, sides coarsely, belly finely areolate. Fore-arm and outer toe with a narrow yellow line on the outer margin. A similar one above vent. Length of head and body, .057; of head to angle of jaws, .016; width of head at angle of jaws, .020; length of fore limb, .040; of hind limb, .080; of hind foot, .036; of tarsus, .020.

From Moyabamba, Peru.

Pithecopus tomopternus, Cope, loc. cit., p. 112.

Abundant at Nauta.

Hypsiboas punctatus, Daudin, Dum. Bibr., viii. 552.

Nauta.

Hypsiboas crepitans, Wied. Beitr. Naturg. Braz., i. 525.

From Nauta.

Hypsiboas spectrum, Reinhot. et Lütke. Viden. Medd. Nat. Forening Kjobenhavn, 1861, p. 195.

Very nearly allied to, if not identical with this species. From Nauta.

Centrotelma geographicum, Spix, Cope, Journ. Acad., Phila., 1867, 205.

From Nauta.

Hyla marmorata, Daudin, Cope, Proceed. Academy, Phila., 1868, p. 111.

Nauta.

Hyla leucophyllata, Beireis; vars. *typica* et *triangulum*, Gthr.

Nauta.

Osteocephalus planiceps, sp. nov.

A rather slender species, with long limbs, and the general proportions of the species of *Hypsiboas*. Head broad and plane on the upper surface to the straight and rectangular canthus rostralis. Loreal region nearly vertical. The fronto-parietal bones are ossified, and the nasals meet on the middle line; their superior surface is rugose with ossific deposit, which in some cases assumes the form of radiating ridges, but nowhere penetrates the free derm. The lateral margins of the fronto-parietals are indicated by delicate angular ridges incurred posteriorly. The vomerine teeth form two curved transverse series between the posterior portions of the inner nares, the angle forwards the outer limb a little longer. Choanae very large, *ostia pharyngea* half the size. Tongue oval, bound behind. Eye large with transparent palpebra, its diameter equal to the space between it and the nostril, one-fourth greater than that of the large membranum tympani, and one-fourth less than the frontal width. Belly and sides coarsely areolate, back minutely tubercular. A short tubercular fold from orbit to behind scapula. Fingers free; toes webbed to the base of the penultimate phalange of the fourth digit; first (least) toe webbed to disk. The heel of the extended hind limb extends beyond the muzzle by the diameter of the tympanum. No dermal fringes or processes.

Color above uniform dark brown, concealed surfaces of limbs similar and without any markings. Sides a little varied with the white of the belt. A light border to the upper lip, and lighter line from the orbit to the angle of the mouth; dermal scapular fold pale edged. Femur and tibia with dark crossbands on the exposed surfaces.

	M.
Length of head and body . . . . .	.060
“ “ (axial) to angle of mandible . . . . .	.017
Width “ at “ “ . . . . .	.019
Length of muzzle from orbit . . . . .	.009
“ of fore limb . . . . .	.037
“ of hand . . . . .	.016
“ of hind limb . . . . .	.093
“ of foot . . . . .	.037
“ of tarsus . . . . .	.019

This is the fourth species of the genus *Osteocephalus*, Fitz, and differs from those previously known in the absence of palmation of the fingers, weaker cranial crests, straight canthus rostralis, etc.

From Nauta.

Scytopsis funereus, sp. nov.

Vomerine teeth in short fascienti between the choanæ. Fingers free. Head oval, muzzle narrowed; eyes small, diameter equal length to muzzle and less than frontal width, twice diameter of tympanic membrane. Hind limbs long, the heel extending to considerably beyond the end of the muzzle. First (inner) toe nearly free; longest webbed to base of penultimate phalange. Arcolation of belly fine, back with a very few scattered elevations. Dark brown or blackish with a broad black cross-band between the eyes and several across arm, femur, tibia, and tarsus. Femora uniform behind; a few black spots on the posterior part of the side. Throat and breast black punctated.

	M.
Length of head to angle of lower jaw . . . . .	.012
“ of head at angle of lower jaw . . . . .	.015
“ to vent . . . . .	.044
Width of sacrum . . . . .	.008
Length of hind leg . . . . .	.073
“ “ foot . . . . .	.030
“ “ tarsus . . . . .	.013

Distinguished from other species of the genus by its long legs.

From Moyabamba, Peru.

Scytopsis allenii, Cope, Proceed. Amer. Philos. Soc. 1869, p. 162.

From Nauta and Moyabamba.

Scytopsis cryptanthus, sp. nov.

Allied to the last species, but with non-elongate flat head, and different coloration. The head is a long oval, and the diameter of the eye is only three-fifths the length from its border to the external nostril, about .75 the interorbital width, and one and one-half times that of the membrum tympani. Vomerine teeth between nares. The heel of the extended hind limb marks the half the distance from orbit to end of muzzle. Fingers and first toe free. Uniform dark brown above, sides and gular region brown speckled. Groin and concealed surfaces of hind limbs black, with brilliant yellow spots, three on the under side of the tibia, two on

the posterior face of the femur, and one large confluent one on the front of femur and groin, which is on the former notched above by two or three black spots.

	M.
Length of head and body . . . . .	.044
“ of head to angle of jaws . . . . .	.015
Width “ above angle of jaws . . . . .	.015
Length of hind limb . . . . .	.070
“ “ foot . . . . .	.030
“ “ tarsus . . . . .	.012

From Nauta.

The species of this genus may be divided as follows :

Fingers webbed.	<i>S. venulosus.</i>
Fingers free.	<i>S. aurantiacus.</i>
Heel extending to beyond muzzle.	<i>S. funereus.</i>
Heel not reaching end of muzzle.	
Skin smooth above.	<i>S. allenii.</i>
	<i>S. xsignatus.</i>
	<i>S. cryptanthus.</i>
Skin arrolate above.	<i>S. ruber.</i>
	<i>S. acuminatus.</i>

Scytopsis amantiacus, Daudin.

Nauta.

Nototrema marsupiatum, Derm. Bibr. Exp. Gen. viii. 598.

Nauta; in two specimens, the ethmoid is unossified above, while there is no fronto-parietal fontanelle.

Family CYSTIGNATHIDÆ.

Subfamily CYSTIGNATHI.

Bubonias plicifrons, gen. et sp. nov.

Fronto-parietal bones fully ossified, nasals separated. Xiphisternum, an osseous style with disk. Auditory organs well developed. A large gland in the inguinal region; no tarsal shovels nor spurs. Maxillary, but no vomerine teeth. Form, toad-like.

This genus it is evident presents characters of *Liuperus* in dentition, *Pleurodema* in glands and feet, and *Cystignathus* in cranial structure.

Char. Specif.—Head narrow, with elevated lores. Membrum tympani oval, its long axis directed upwards and forwards, and nearly equal in length to that of the eye. The latter equals the length from its border to the end of the (osseous) muzzle. Skin

half palmate; a free border on the inner side of the tarsus, and outer side of outer toe. Skin smooth except a few small tubercles on the occipital region. In the male there are numerous small horny points on the breast, and a large horny plate on each thumb, whose surface is roughened with crowded projecting points.

Color olive-brown above, lighter brown below; one specimen has a few scattered yellow spots above.

	M.
Length of head and body . . . . .	.048
“ of head to angle of mandible . . . . .	.012
Width “ at “ “ . . . . .	.018
“ “ interorbital . . . . .	.004
Length of fore limb . . . . .	.025
“ of hind limb . . . . .	.068
“ of hind foot . . . . .	.032
“ of tarsus . . . . .	.012

Two specimens from lake Titicaca.

This species has a much less depressed head than the *C. marmoratus*, and probably a less developed auditory apparatus, and vomerine tooth series. The coloration is entirely different. The *C. fasciatus*, Peters, is equally distinct, judging from the description.

Hylodes sulcatus, sp. nov.

Distinguished for its very wide head and rugose skin. The form is stout, but the hind limbs rather elongate. The maxillary borders are so expanded as to give the tympanic disks a partly vertical exposure. These are vertically oval, the diameter a little less than that of the orbit. The latter is a little less than the length to the anterior nares. Choanae large, but little larger than the ostia pharyngea. Vomerine teeth in two short curved series entirely behind the choanae, and not extending outwards beyond their middle; they approach nearly inwards. Tongue round, entire, one-third free. Fingers very short without expansions. Heel of extended hind limb to nares; expansions of hind toes well marked, with T-shaped phalanges. A peculiarity of the species is seen in the strong ridge that extends along the superciliary border to the posterior border of the cranium, inclosing a groove with its fellow. Skin below areolate on the belly; above with numerous short, generally symmetrical folds, two of which cross the suprascapular region, two on the sides, two on each side the back, etc. The

sides of the head from the orbit to the angle of the jaws is covered with closely placed tubercles giving a rugose surface.

Color, deep brown above, white below. Limbs crossbarred with brown; femora pale, marbled behind. Lips without light border; a pale spot below the interval between orbit and tympanum.

	M.
Length of head and body . . . . .	.047
“ of head to angle of jaws . . . . .	.016
Width of head at angle of jaws . . . . .	.025
“ of head at interorbital . . . . .	.004
Length of fore limb . . . . .	.024
“ of hind limb . . . . .	.075
“ of foot . . . . .	.034
“ of tarsus . . . . .	.014

From Nauta. Evidently allied to the *Strabomantis biporcatus*, Peters.

Lithodytes conspicillatus, Gthr. Batrach, Brit. Mus, 92, Var.

“Santarem, Brazil, No. 141.”

Plectomantis rhodostima, sp. nov.

General form ranoid, with oval head and full and truncate muzzle. The head of the extended hind limb reaches to the posterior border of the orbit. Tympanum .66 the size of the eye, which equals in terorbital width and length to nostril. Vomerine teeth, in two short curved series, on a transverse line behind the nares, and extending upwards as far as their inner border. Their size a little exceeds that of the ostia pharyngea. Tongue elongate oval, largely free. Skin smooth above and below. Toes before and behind, with well-marked dilatations, and without dermal margins. Color, above uniform brown, below whitish; muzzle blackish to the orbits; femora dark-brown behind. A rose-colored spot in the groin, one on the superior face of the femur, two on the inferior face of the tibia, and one on the superior face of the tarsus.

	M.
Length of head and body . . . . .	.045
“ of head to angle of jaws . . . . .	.014
Width of head at angle of jaws . . . . .	.015
“ of head between orbits . . . . .	.004
Length of fore limb . . . . .	.026
“ of hind limb . . . . .	.059
“ of hind foot . . . . .	.029
“ of tarsus . . . . .	.012

One specimen from Nauta.

This species has the cranial structure and xiphisternal style of *Cystignathus*, but the T-shaped phalanges and disks of *Hylodes*. The *Plectromantis wagneri*, Peters, I have examined in Munich, and find it to be closely allied to *Cystignathus*, so far as external appearances are concerned, but further than this I could not examine. It, however, has digital dilatations, and I refer the present species, provisionally, to the same genus, suspecting that such course will be warranted by a fuller investigation of the type specimen. As here defined, it bears the same relation to *Cystignathus* that *Hylorana* does to *Rana*.

Cystignathus hallowellii, Cope, Proceed. Academy, Philada., 1868, 115. *Hylodes hallowellii*, Cope, I. c., 1862, p. 153.

A variety from between Balso Puerto and Moyabamba, Peru.

Gnathophysa ocellata, Linne; Seba, pl. 75, fig. 1. *Cystignathus labyrinthicus*, Dum. Bibr. Castelnan. *Pleurodema labyrinthica*, Gthr.

From Nauta.

Gnathophysa rubido, sp. nov.

A much smaller species than the preceding, represented by two males and a female, the former with the nuptial spurs largely developed. The metacarpus of the pollex terminates in one, and the second projects from the metacarpus of the second digit. There is one with three muerones on each side of the breast. The general form is stout. The toes are without free dermal margins, and the smooth abdominal derm has the discoidal fold. The vomerine teeth form two short transverse open arches behind the nares, not extending outwards beyond, opposite the centres of the latter. There is a dorsolateral fold from the orbit to near the groin, and another, commencing just below it, extends to the middle of the side, and sends a short branch down behind the membrum tympani. Dorsal surface smooth, pustular between the ilia; tibia pustular above. The head is a wide oval, with a short decurved muzzle, and large eyes. The diameter of the latter exceeds the length to the outer nares, and is nearly twice that of the tympanic membrane. Tongue elongate oval, faintly notched, choanæ and ostia near the same size. The heel of the extended hind limb falls short of the orbit. The lateral glandular mass extends from near the axilla to the groin and occupies the width of the side.

Color, above reddish to brown, in one specimen bright-red; femora black behind, faintly pale-marbled; front of femur black, a few black spots in the groin. Entire hind limb black, cross-banded. A narrow black bar from nostril to tympanum; upper lip broadly black-bordered. Inferior surfaces dark-brown, with numerous pale dots, which may be wanting on the gular region, and inosculate on the femur.

	M.
Length of head and body . . . . .	.066
“ of head to angle of jaws . . . . .	.019
Width of head at angle of jaws . . . . .	.026
“ of head between orbits . . . . .	.006
Length of fore limb . . . . .	.035
“ of hind limb . . . . .	.081
“ of hind foot . . . . .	.040
“ of tarsus . . . . .	.016

From Moyabamba, Peru.

***Dendrobates trivittatus*, Spix (?).**

This species agrees with the figure given by Spix, and differs from the description by Günther, of the *D. tinctorius*, to which the latter author refers it as a synonym. Thus the dorsal derm is closely areolate, and the ventral smooth, and the first finger is longer than the second. There are three longitudinal yellow bands, the outer springing from the orbits, the median from between them. The lateral extend to the knee, while another band extends from the lips below the orbit to the middle of the humerus. A yellow horse-shoe on the end of the muzzle; below black, with yellow spots on the limbs only. Femur with few spots behind.

From between Balso Puerto and Moyabamba, Peru.

***Dendrobates labialis*, sp. nov.**

Skin minutely areolate on the upper surfaces, smooth below. Muzzle flat, moderately elongate, and broadly truncate. Tympanum one-fifth size of eye, which equals length of muzzle and interorbital width. The muzzle marks the end of the forearm, and the posterior edge of the orbit the heel. First finger longer than the second. The upper surfaces are colored by some pigment, whose distinctive character has been lost in the alcohol. Upper lip pale banded, the band extending through the axilla,

and meeting its fellow at the pubis. No spots or bands on the upper surfaces.

	M.
Length of head and body . . . . .	.026
“ of head to angles of jaws . . . . .	.010
Width of head at angle of jaws . . . . .	.008
Length of fore limb . . . . .	.015
“ of hind limb . . . . .	.035
of hind foot . . . . .	.017

From Nauta.

Dendrobates speciosus, Schmidt, Denkschr. Acad. Wiss. Wien, 1858, p. 249.

From

Atelopus seminiferus, sp. nov.

Body elongate, limbs rather short; the muzzle nearly reaching the middle of the extended forearm, and the heel marking the scapula. The muzzle viewed from above is rounded, truncate, and in profile somewhat prominent; the nostril marking a line which falls behind the symphysis of the mandible. The eyelid is thickened, and is not prominent; and the diameter of the eye equals the length of the muzzle and the posterior interorbital width. The ethmoid appears to be ossified to the end of the muzzle. Fingers slightly, toes largely webbed, the web reaching the end of the first phalange of the fourth (long) toe. Tongue narrow, extensively free; ostia pharyngea smaller than the small choanae. Skin smooth except on the sides, where there are numerous closely-placed minute tubercles from the head to the groin. A broad fold of skin extending from the side to the middle of the length of the femur.

Above, dark-brown; below, brownish-orange. Sides black from head to groin; each tubercle of the skin yellow, resembling yellow grains. Limbs uniform black.

	M.
Length of head and body . . . . .	.040
“ of head to angle of jaws . . . . .	.009
Width of head at angle of jaws . . . . .	.009
Length of fore limbs . . . . .	.026
“ of hind limbs . . . . .	.045
“ of hind foot . . . . .	.021
“ of tarsus . . . . .	.007

From between Balsa Puerto and Moyabamba, Peru.

This species has a much shorter muzzle and limbs than the *A. spumarius* (Proceed. Acad. Philada., 1871, p. 222); from Pebas.

Colostethus latinosus, Cope (?), Proceed. Academy, Philada., 1866, 130, and 1863, 48. Colors not presented; identification not final.

Between Balsa Puerto and Moyabamba.

RANIFORMIA.

Ranula brevipalmata, sp. nov.

Nearly allied to the *R. affinis*, but with the web of the posterior digits only reaching the bases of the ultimate, or in the fourth toe, the penultimate phalange. The membranum tympani is as large as the eye (not orbit); and the nostril is near the end of the muzzle. The extended hind limb brings the heel to the anterior border of the orbit, instead of the end of the muzzle, as in *R. affinis*. General color, olive; below, white. Femora and tibiae marbled, with black behind.

	M.
Length of head and body . . . . .	.049
“ of head to angle of jaws . . . . .	.020
Width of head at angle of jaws . . . . .	.019
“ of head between orbits . . . . .	.005
Length of fore limb . . . . .	.027
“ of hind limb . . . . .	.074
“ of hind foot . . . . .	.034
“ of tarsus . . . . .	.012

From Nauta.

Ranula nigrilatus, sp. nov.

Toes fully palmate to ends of last phalanges, or base of same on the fourth digit. Heel of extended hind limb reaching anterior border of orbit. Eye one and a half times the diameter of the tympanum, and equal to the length of the lores to the nostril. Muzzle truncate in marking the middle of the metacarpi of profile; flat above the extended fore limb. First and second fingers equal; a tarsal dermal fold. Skin smooth.

Color, dark-brown; sides black; lower surfaces closely marbled with dark-brown. Femora and tibiae black, marbled behind.

	M.
Length of head and body . . . . .	.048
“ of head to angle of jaws . . . . .	.018
Width of head to angle of jaws . . . . .	.018
Length of fore limb . . . . .	.025
“ of hind limb . . . . .	.070
“ of hind foot . . . . .	.034
“ of tarsus . . . . .	.012

This species has the palmation of *R. affinis*, and the short legs of *R. brevipalmata*; the tympanum is smaller than in either. The head is longer and the femur shorter than in the latter. The coloration is notably distinct. In neither of these species do I find the dorsolateral dermal fold of the *R. affinis*, though this may be due to the rather soft state of the specimens.

From Nauta.

NEMATOGNATHI.

Trichomycterus pardus, sp. nov.

Origin of dorsal fin but little behind a point above that of the ventrals. Radii, D. 8; A. 6; V. 5; A. 12; truneate. Head flat, entering the length without caudal fin 4.8 times. Diameter of orbit one-sixth length of head, and one-half interorbital breadth. Nareal beard extending backwards beyond eye, and the maxillary to the border of the suboperculum. Preopercular and opercular patches full. Color above yellowish-brown, with three rows of dark-brown spots on the sides. Fins and lower surfaces pale and unspotted. Total length, .073; caudal fin, .011; head, .010; depth at dorsal fin, .011.

This is one of the few species of the genus where the dorsal fin is nearly immediately above the ventrals.

From

Trichomycterus rivulatus, Cud., vol. xviii. 495.

From Arequipa, Peru.

Bunocephalus melas, sp. nov.

Radial formula: D. 5; P. I. 5; V. 6; A. 7; C. 10. Head and shield are elongate oval, without prominent ridges or marginal angles. The anterior humeral tuberosity marks one-third the length to the middle of the shield at the basis of the dorsal ray. The width in front of the pectoral spine is a little less than .25 of the total length (including caudal fin); the length of the postcoracoid process is equal to nearly two-thirds of the interspace between them. The maxillary barbel extends to the end of the basal third of the pectoral spine; the latter oppressed, reaches the base of the ventral fins. Tail at anal fin wider than deep; compressed near the base of the caudal fin. Four rows of wartlets on the sides, one of them on the lateral angle of the tail. Dorsal fin nearer the end of the muzzle than the base of the caudal fin by two-thirds the length of its base.

Color black, darkest on the sides; head speckled with paler. Total length .072; to caudal fin, .059; to dorsal fin, .028; to dorsal shield, .025; to line of anterior humeral tuberosity, .008; to orbit, .003.

From Nauta. The dorsal fin is apparently more posterior than in *B. gronovii*, and there are fewer anal rays than in *B. aleuropsis*.

Dysichthys coracoides, gen. et sp. nov.

Char. Gen.—In general similar to *Bunocephalus*, but there are no mandibular nor mental barbels. The head is depressed, but deeper than the narrow tail.

Char. Specif.—Radial formula, D. 5; A. 7; C. 10; V. 6; P. I. 4. Dorsal fin bound to the back behind by its membrane, the base of its first ray a little nearer the end of the muzzle than the basis of the caudal fin. The head and neck shield is diamond-shaped, with truncate angles, and the humeral angles mark the middle of its length instead of an anterior point, as in *Bunocephalus melas*. The anterior humeral tuberosity marks one-third the length from the end of the muzzle to the second dorsal ray, measured axially. The shield is peculiar for its strong ridges and scalloped borders. A high heel, with three prominences, divides it behind, while the scutum supports another. The posterior border presents two angles, and there is a ridge across behind the orbits. A ridge from each orbit meets its fellow, forming a V at the occiput, and a ridge from the humeral process meets its fellow behind this point. The postcoracoids are longer than in *B. melas*, their length equalling the width between them. The pectoral spines extend beyond the base of the dentals. The maxillary barbels extend to the base of the pectoral spines. The tail is quadrangular with a line of evanets along the lateral angle. Belly, tail, and fins, black; throat and belly white speckled. Shield brown, with some paler specks. Total length, .055; do. to caudal fin, .046; do. to dorsal, .021; do. to dorsal scutum, .018; do. to humeral tuberosity, .010; do. to orbit, .003.

Several specimens from Nauta.

Zathorax nauticus, sp. nov.

Coracoid portion of the scapular arch only ossified so as to occupy the derm. Postcoracoid narrow, not excavated. A distinct adipose fin. Prefrontal bone acutely pectinate on its upper face. Head (to end of snout) one-third length to middle of caudal

fin. Orbit one-third length of head (to gill opening), and nearly equal interorbital width. Mandibular barbel to end of postcoracoid process; maxillary to end of pectoral spine. Width of casque greater than the interorbital. Radii D. L. 6; A. 12; V. 7; P. I. 4. Dorsal spine grooved, not dentate; pectoral spine strongly toothed extending beyond basis of ventral fin. Postclavicle with recurved teeth; caudal fin truncate. Lateral shields 26 low, leaving a broad naked band above and below them; with a single strong median curved spine. Color brown above, with a yellow band along the middle of the side border red with black above and below. Belly white; below the pectoral fin purple. Caudal fin with some vertical dark bars. Total length, .082; do. to first anal ray, .045; do. to end of postcoracoid, .026; do. to base of dorsal fin, .026; do. to gill opening, .016; do. to orbit, .004.

From Nauta. The less exposure of the scapular arch below, simple postcoracoid, etc., distinguish this fish from the *Z. monitor*, m. According to the description of Dr. Günther the *Doras asterifrons* pertains to the genus *Zathorax*.

Rhinodoras niger, Valenciennes; Gthv. v. 209.

Nauta.

One of the specimens is twenty-five inches in length.

Rhinodoras prianomus, sp. nov.

Head long, extending (measured to the end of the opercular flap) the length of the short body to the origin of the upper and lower caudal radii, 2.5 times. The eye is one-seventh the length of the head, and is equidistant between the end of the muzzle and the edge of the operculum, and is half the interorbital width. Lateral scuta 22; the first and last with rudimental spine; that of the others strong and curved, the upper edge of the scutum with two or three prickles. The scuta leave a wide naked space above and below them. Radii, D. I. 6; A. 10; V. 7; P. I. 10. Dorsal and pectoral spines serrate to the base on their anterior edges; postclavicle with a longitudinal angle, which supports a series of processes and spines. Head and casque rugose above. Maxillary barbels reach to beyond eye; the outer mentals are .66 as long. Color brown, paler below, with numerous vertical dark brown spots on the sides. All the rayed fins, and the back at the base of the adipose, black. Head above and at sides gray

with numerous large brown spots. Length to base of caudal fin (marginal) m. .12 ; to base of dorsal, .07.

From Nauta.

One of the specimens from Nauta measures twenty-five inches.

Corydoras ambiacus, Cope, Proceed. Acad. Phila., 1872, p. 280.

From Nauta.

Corydoras armatus, *Callichthys armatus*. Günth. Proceed. Zool. Soc. Lond., 1868, p. 231.

Callichthys asper, Quoy. Gaim.

Nauta.

Hoplosternum longifilis, Cuv. Val., Günther, v. p. 228.

Nauta.

Hypoptoporna bilobatum, Cope, Proceed. Amer. Philoso. Soc., 187.

Loricaria cataphracta, L. Günther, v. p. 255.

From the Marañon.

Loricaria rostrata, Spix, Günther, v. 256.

Liposarcus jeanesianus, sp. nov.

This large and handsome species is allied to the *L. pardalis*, Cast, and *L. varius*, Cope, but presents a number of peculiar features. It is elongate and depressed, the head moderately so only. The head enters the total length (with caudal) 5.75 times ; while the greatest depth (in front of the dorsal fin) enters it eight times, the head being measured to the superior end of the branchial fissure. There is an obtuse canthus rostralis from the orbit to the nares, there is a strong nuchal angle (not a crest), and a low one corresponding to the outer border of the epiotic bone. The two nuchal scuta have two very low ridges each. The orbit is small, entering the length of the snout 6.5 times, and the interorbital width 3.25 times. The sculpture of the upper surfaces of the head consists of numerous close grooves forming various patterns. Two or three small spines on the interoperculum. Beard reaching the line of the front margin of the eye. Inferior surfaces to anal fin entirely granular. Scuta of the body in twenty-eight transverse and (at the dorsal fin) four longitudinal series. They have a low serrate keel which ends in a point. Six scuta between dorsal fins and fourteen between anal caudal. Radii D. II. 12 ; C. I. 14, I ; A. I. 4 ; V. I. 5 ; P. I. 6. Base of the dorsal enters total length 3.5 times, and equals the length of the head and nape

in front of it, exceeding the length of the pectoral spines by two interradiat spaces.

Color olivaceous above with numerous black spots, which inosculate on the dorsal region; below lighter with numerous closely placed black spots. Fins clouded. Head very closely radiate, banded and spotted.

Total length .400 m. (15.75 inches); length to bases of caudal, .305; do. to anal, .200; do. to ventral, .140; do. to pectoral, .060; do. to edge of inferior lip, .034; do. to superior teeth, .011. Length of first dorsal spine, .071; humeral width, .077.

Two specimens from Nauta, Peru. Dedicated to Joseph Jeanes, of Philadelphia, one of the most liberal patrons of students of the Natural Sciences in the United States.

Liposarcus serophus, sp. nov.

Size of the last species but much more robust and rough in character. The dorsal outlines arched, rising abruptly in a strong crest on the posterior cephalic scutum, and maintained by the rough lateral keels of the nuchal plates. The head enters the total length 4.25 times, and the greatest depth the same, five times. An obtuse ridge to nares and a low swelling on the upper part of the pterotic shield. There is an angular tuberosity on the upper posterior part of the orbit, and a low ridge on the inner side of each of the nares. Barbel only extending to line of interior nostril. Several strong spines on the interoperculum. Diameter entering length of side of muzzle four times, and three and a quarter times the interorbital width. Sculpture of the upper surfaces of the head consisting of lines of minute acute tubercles, which are nearly obsolete on the interorbital.

Lower surfaces everywhere rugose. Scuta in twenty-seven transverse, and four longitudinal series, all rugose with lines of points and each with an elevated keel-brush of small spines. The upper and lower series of lateral scuta are strongly angulate, and the sides are swollen from opposite the base of the dorsal fin. Five scuta between the dorsal fins and thirteen between the anal and caudal fins. Radii of fins; D. II. 12; C. I. 14, I; A. I. 4; V. I. 5; P. I. 6. Dorsal fin longer than high, entering total length 3.5 times and a little less than length in front of its first spine. Length of latter equal length of head to end of interoperculum. Pectoral fin stout, shorter than basis of dorsal fin by three interspaces. The lower caudal lobe is, as in *L. jeanesianus* consider-

ably longer than the upper. Color uniform black; upper caudal ray yellowish.

	M.
Total length	0.370
Length to basis of caudal fin . . . . .	.298
“ “ “ of oval fin . . . . .	.200
“ “ “ of ventral . . . . .	.145
“ “ “ of pectoral . . . . .	.070
“ “ “ of edge of lower lip . . . . .	.040
“ to superior teeth . . . . .	.014
“ to first dorsal spine . . . . .	.075
Humeral width . . . . .	.093

Two specimens from Nauta.

Plecostomus virescens, sp. nov.

Head wide, depressed, muzzle moderately elongate; body and tail rather elongate. There is a very obtuse occipital and nuchal elevation, while the post and preorbital angles are well marked. A few preopercular spines. Head below naked behind the mouth. Teeth numerous, acutely incurved. Posterior lip entire, smooth; beard shorter than diameter of orbit. The latter is one-fourth the length of the head, and one-half the flat interorbital space. Length of head 4.25 times in the total minus caudal fin. Radii D. I. 7, I; C. I. 14, I; A. 5; V. I. 4; P. I. 6. Basis of dorsal equal space between it and second dorsal plus one scutum, and equal the length in front of it to the middle of the interorbital region. Pectoral spine reaching a little beyond base of ventral. Scuta 26—4, without keels but with numerous rugose ridges.